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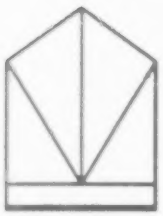
Shipbuilders
Council of
America

1989-1990 IN REVIEW



SHIP CONSTRUCTION REPORT

July 1991

Shipbuilders Council of America
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Arlington, VA 22203

703 276 1700

SHIPBUILDERS COUNCIL OF AMERICA
SHIP CONSTRUCTION REPORT

1989-1990 IN REVIEW

July 1991

This publication reinstitutes the series begun in 1988. The production schedule for the remainder of calendar year 1991 is shown below. We will return to our quarterly format beginning in March of 1992.

July:	Ship Construction 1989-1990
September:	Ship Repair 1988-1990
October:	Contracts/Financial 1988-1990
December:	Manpower and Labor Issues 1988-1990

OVERVIEW

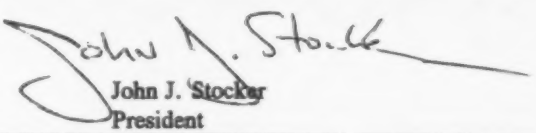
The past two years in ship construction have truly been years of dramatic change. In the United States, the expected decline in the naval order book has materialized. The value of unfinished work in the industry has dropped from $16.6 billion in 1989 to a level on January 1, 1991 of $14.2 billion. The forecast for 1995 is that, given present trends, the backlog will be approximately $10.2 billion, a decline of 38.5 percent over six years. Navy shipbuilding has been in a real dollar decline since the Fiscal Year 1983 budget. The current forecasts paint a bleak future. This report details where the Navy's shipbuilding account has been and is expected to go in the next six years. The changes in the international environment have been positive with the development of closer relations between the United States and the Soviet Union. The prospect for peace in the Middle East appears to be improved.

But these changes mean that defense and business planners face some fundamental uncertainties. The defense requirements for the future have changed. We no longer face a superpower that had developed military forces very much like our own. Now, the confrontations will be regional in nature and will not benefit from the large logistics infrastructure that has existed throughout the postwar period. Regional conflict will stress mobility and the ability to lift forces in great numbers at a speed to meet contingencies that are difficult to predict and to plan. As a result, the force structure that our industry has responded to will be very different in the years to come. The critical question for industry is, will we be prepared to be as flexible in our business planning as the military must become in their force structure planning?

With the coming emphasis on mobility, it is obvious that the Shipbuilders Council's call for sealift improvements was timely. The Persian Gulf conflict defined our mobility weaknesses and proved that the Council's plan for the construction of additional ships for the surge sealift function was prescient. For the past two years, the Congress of the United States has worked closely with the Council to place such a program in being. The Defense Department is now finally coming to the realization that a sealift program is needed. The beauty of such a program is seen, not only in meeting military requirements, but in the timeliness of its impact on the industrial base. Without sealift and with the present force structure unchanged, this report documents the Navy budget will generate ever decreasing shipbuilding workload, such that by 1997 there will be only 49 ships under construction. This compares to the 1991 production level of 99 ships. Sealift offers the potential of narrowing that gap.

But, from an industrial point of view, it is clear that sealift can offer only a short-term solution to the problem of workload maintenance for American shipyards. Sealift can only be a bridge to the commercial market. But the commercial market can only be available if American shipyards are playing under the same rules as our international competitors. International subsidies remain unchecked after two years of negotiations. The commercial shipbuilding figures in this report reflect the continuing litany of dominant shipbuilding producers receiving very large subsidy programs from their governments. During the past two years that the U.S. Government has led the effort to discipline subsidy practices, our trading partners in Japan, South Korea, and Germany have doled out $4.5 billion in funding for their shipyards. The aid comes in all forms from research and development to soft credits for ship finance to direct grants to offset the high cost of labor. As long as these conditions exist, American shipyards will find it difficult to compete and they will be discouraged from trying to penetrate the export market. With little likelihood that the domestic commercial market offers much hope for expansion or growth and with the sharp declines forecast for naval shipbuilding, the United States runs the risk of losing its shipyards.

The danger is increasingly clear. The Defense and Navy Departments are becoming concerned about the continued viability of the private shipyard base. The industry, however, has structured a program centered around the utilization of the sealift program as a transitional effort to lay the groundwork for the industry's return to the commercial market. But the transitional effort can only succeed if the United States becomes committed to the notion that it will not allow our trading partners to deny access to future markets. The forecasts for shipbuilding in the late 1990s remains bullish. It is that market that offers the best opportunity for the American yards. The industry will survive this downturn only if the Administration recognizes the deadly combination of unfair trade practices and declining defense budgets. The industry and the Government must be clear in the long-term goal that we set for ourselves; a fair market where a strong and competitive American shipbuilding and ship repair industry can prosper.



John J. Stocker
President

NAVY SHIPBUILDING - FISCAL YEAR 1990

Prior to leaving office in January 1989, President Ronald Reagan submitted a Defense budget to the Congress which included $10.419 billion for the Navy's Shipbuilding and Conversion (SCN) appropriation. The Reagan request included funding for 20 new construction ships. These were one Trident ballistic missile submarine, two SSN-688 nuclear attack submarines, five DDG-51 guided missile destroyers, one AOE fast combat support ship, one LSD cargo variant, three MCM mine countermeasures ships, three MHC coastal minehunter ships, three AGOR oceanographic research ships, and one TAGOS (SWATH) ocean surveillance ship. These accounted for the new construction request requiring $8.807 billion. The request also contained $906.9 million in funding for one Carrier Service Life Extension Program (SLEP), one AO (Jumbo) oiler conversion, and one Moored Training Ship. The remaining $705.7 million included funding for nine LCAC landing craft air cushion assault craft, as well as service and amphibious craft, outfitting and post delivery.

In March 1989, President Bush submitted a slightly revised and downsized SCN budget calling for 17 new construction ships and the three conversions/SLEP. Deleted in the Bush submission were one of two SSN-688 nuclear attack submarines and two of three MHC-51 coastal minehunters. Minor financing revisions were made to the TRIDENT, SSN-21, outfitting and post delivery lines with a resulting total of $9.55 billion, a reduction of $869.0 million from the Reagan request.

The House Armed Services Committee accepted the Bush budget as submitted with three exceptions. They added back the two MHC-51s cut by Bush, added $20 million in long lead funding for a fast monohull sealift ship to be built in 1991 and transferred $129.1 million from O&M,N and other accounts to begin funding the refueling overhaul of USS ENTERPRISE (CVN 68) aircraft carrier in the SCN appropriation rather than in the operations and maintenance account. In addition, the Committee transferred $63.9 million from the R&D account to SCN to fund preliminary and contract design work. The House of Representatives passed the SCN request as reported by the Committee which carried a total value of $9.925 billion.

The Senate Armed services Committee did not add back the MHC-51s but did parallel the House in the addition of sealift long lead material and ENTERPRISE funding in SCN. The Senate did not transfer ship design monies from the R&D accounts but did increase the number of LCACs from nine in the request and House bills to 14. The Senate also made financing reduction in the TRIDENT and SSN-688 programs resulting in authorization of $9.756 billion.

Just before adjournment in early August 1989, the House passed the Defense Appropriations Bill which included $12.459 billion for SCN. The appropriators added back the second SSN-688 and the two MHC-51s from the original Reagan budget, added $1.0 billion for the construction of four fast sealift ships and two sealift tankers. They also added $1.422 billion to complete all funding for the ENTERPRISE refueling overhaul. The Appropriations Bill also

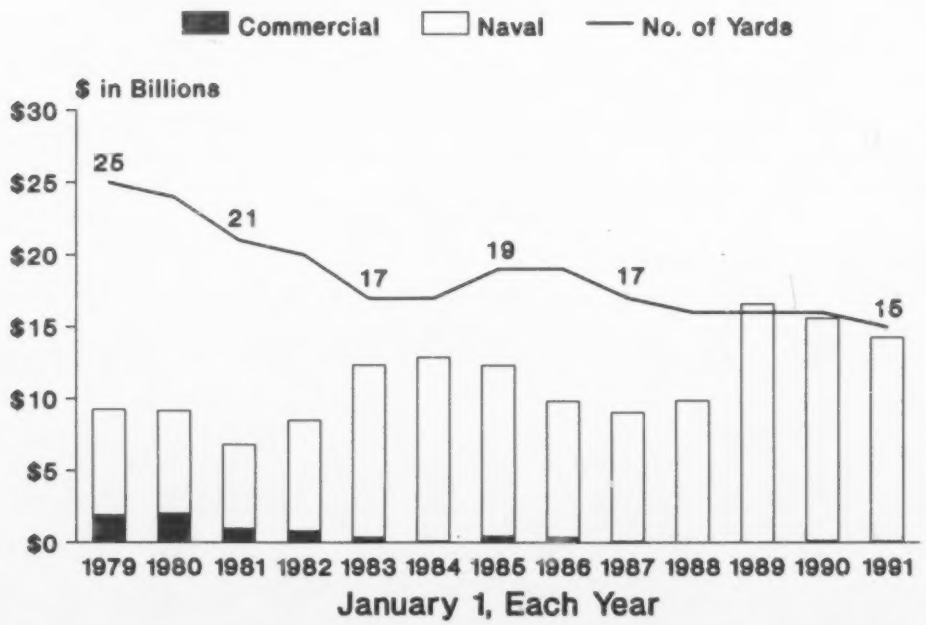
provides for 12 LCACs and makes financing reduction to the SSN-21, DDG-51, outfitting and post delivery.

The ability to fund the sealift program and the ENTERPRISE refueling overhaul results not from reductions to other programs but rather an imbalance in budget authority and outlays. Since SCN programs only outlay four to five percent in the budget year, that appropriation is a logical place to add funds when budget authority is available but outlay targets are tight. This is the third year in a row that this has happened and is the reason that two CVNs could be purchased in FY 1988 and that the early buy-outs of the CG-47 guided missile cruiser and TAO fleet oiler programs were possible.

The final appropriations bill passed by both House and Senate was for 19 new construction Navy ships, six sealift ships and four conversions including full funding for the refueling overhaul of the USS ENTERPRISE.

In summary, fiscal year 1990 was another excellent year for Navy shipbuilding. We continued to receive excellent support from the Congress to ensure that required programs were properly funded.

VALUE OF UNFINISHED SHIPBUILDING WORK



NAVAL SHIPBUILDING - FISCAL YEAR 1991

For fiscal year 1991, the President's Request contained $11.1952 billion for the Shipbuilding and Conversion, Navy (SCN) appropriation. The funding was required to procure one Trident ballistic missile submarine, two nuclear attack submarines of the SSN-21 class, five DDG-51s, one LHD-1 amphibious assault ship, one LSD-41 cargo variant, three mine hunter coastal ships, one AOE-6, and one oceanographic research ship. In addition, twelve Landing Craft Air Cushion (LCAC) were requested.

In early authorization action, the nuclear submarine program became the most contentious. The Senate deleted the two SSN-21s requested by the President and substituted two additional SSN-688s while the House Armed Services Committee deleted one of the SSN-21s but was silent on the SSN-688 issue. Both bodies approved five DDG-51s but in conference reduced the procurement to four. The HASC also cut the AOE, but it was also restored in conference. House floor action also added $250 million in authorization for Fast Sealift funding with the result that only 13 ships were authorized and over $1.7 billion was cut from the President's request.

The Appropriations Committees were in general agreement with the authorizers and cut only one more ship, an MHC for a total of 12 new construction ships funded. In addition, the appropriators added $900 million for sealift funding and $405 million for an overhaul to the USS JOHN F. KENNEDY, such overhaul to be done at the Philadelphia Naval Shipyard.

The final appropriation bill of $10.160 billion was almost exactly $1.0 billion less than the President's request.

The collapse of support for Navy shipbuilding occurred between submission of the FY 1991 and FY 1992 budgets. A comparison of Navy figures for fiscal years 1992-1994 in the two documents is illuminating.

FY 1991 Budget Submission ($Billion)

	FY 1992	FY 1993	FY 1994	Total
Funding	$10.67	$14.91	$11.11	$36.39
Ships	21	22	20	63

FY 1992 Budget Submission ($Billion)

	FY 1992	FY 1993	FY 1994	Total
Funding	$8.64	$8.29	$6.43	$23.36
Ships	12	11	9	32

Thus, in a one-year period, this three-year funding slice for Navy shipbuilding was reduced by over $13 billion (in excess of $4.3 billion per year) and a staggering reduction of 31 ships, a cut of 49.2 percent over the three-year period. This reduction appears to set the norm for future Navy shipbuilding plans.

NEW NAVAL COMBATANT AND AUXILIARY VESSEL ORDERS PLACED WITH U.S. PRIVATE SHIPYARDS

(1,000 Light Displacement Tons and Over)

Calendar Year	Total Vessels	Combatant	Auxiliary	Contract Yards	Light Disp Tons	Initial Shipyard Contract $ Value
1968	15	10	5	4	152,591	638,239,000
1969	6	6	0	3	79,533	453,180,000
1970	6	6	0	2	132,000	758,100,000
1971	15	15	0	3	88,044	1,055,000,000
1972	14	13	1	4	85,522	852,204,000
1973	7	7	0	2	38,727	512,345,000
1974	16	14	2	4	171,100	1,387,375,000
1975	16	13	3	6	106,197	1,677,241,000
1976	20	14	6	8	91,322	1,254,169,000
1977	15	12	3	8	88,616	1,575,271,000
1978	25	20	5	8	119,478	2,506,400,000
1979	13	11	2	6	60,646	1,356,753,000
1980	11	8	3	6	101,072	1,933,655,000
1981	28	13	15	10	97,307	2,842,301,000
1982	28	18	10	11	321,040	7,777,200,000
1983	27	12	15	10	431,760	5,041,400,000
1984	11	11	0	6	104,157	2,848,800,000
1985	11	4	7	7	92,320	1,679,400,000
1986	16	12	4	9	117,816	3,034,868,000
1987	20	12	8	10	127,310	3,521,899,000
1988	32	21	11	8	408,322	9,885,700,000
1989	16	12	4	6	111,804	2,848,800,000
1990	8	7	1	4	62,092	2,059,100,000

DELIVERIES BY U.S. PRIVATE SHIPYARDS DURING 1989
1,000 LIGHT DISPLACEMENT TONS AND OVER
($ in Millions)

Shipyard	Navy No.	Name	Vessel Type	Contract Date	Delivery Date	Light Disp. Tons	Approx. Contract Price
New Naval Vessels							
General Dynamics, EB	SSN-752	PASADENA	Attack Submarine	11/82	1/26/89	6,000	$280,100,000
Bath Iron Works	CG-58	PHILIPPINE SEA	Guided Missile Cruiser	12/83	1/27/89	8,910	252,800,000
Avondale Industries, Inc.	LSD-44	GUNSTON HALL	Dock Landing Ship	11/83	2/24/89	11,100	166,700,000
Trinity Industries	T-AGOS-15	TITAN	Ocean Surveillance Ship	6/86	3/08/89	1,600	13,844,067
Bethlehem Steel	T-AGS-39	MAURY	Oceanographic Survey Ship	6/85	3/31/89	8,810	66,400,000
Ingalls Shipbuilding	LHD-1	WASP	Amphibious Assault Ship	2/84	5/05/89	28,500	822,000,000
Newport News Shipbuilding	SSN-750	NEWPORT NEWS	Attack Submarine	4/82	5/16/89	6,000	236,400,000
Trinity Industries	T-AGOS-16	CAPABLE	Ocean Surveillance Ship	2/87	6/09/89	1,600	14,031,924
Tacoma Boatbuilding	T-AGOS-11	AUDACIOUS	Ocean Surveillance Ship	9/87	6/12/89	1,600	9,295,000
Todd Shipyards, S. Pedro	FFG-61	INGRAHAM	Guided Missile Frigate	11/84	7/07/89	2,727	96,100,000
Avondale Industries, Inc.	T-AO-195	LEROY GRUMMAN	Fleet Oiler	2/86	8/02/89	15,000	96,900,000
General Dynamics, EB	SSBN-735	PENNSYLVANIA	Ballistic Missile Sub	11/82	8/22/89	12,500	531,600,000
Ingalls Shipbuilding	CG-62	CHANCELLORSVILLE	Guided Missile Cruiser	11/84	8/28/89	8,910	238,600,000
Peterson Builders	MCM-3	SENTRY	Mine Countermeasures Ship	12/83	8/28/89	1,000	37,400,000
Marinette Marine	MCM-2	DEFENDER	Mine Countermeasures Ship	5/83	9/08/89	1,000	46,400,000
General Dynamics, EB	SSN-754	TOPEKA	Attack Submarine	11/83	9/28/89	6,000	324,500,000
Trinity Industries	T-AGOS-17	TENACIOUS	Ocean Surveillance Ship	2/87	9/29/89	1,600	14,031,924
Bath Iron Works	CG-60	NORMANDY	Guided Missile Cruiser	11/84	10/18/89	8,910	191,800,000
Tacoma Boatbuilding	T-AGOS-12	BOLD	Ocean Surveillance Ship	9/87	10/20/89	1,600	9,295,000
Newport News Shipbuilding	CVN-72	ABRAHAM LINCOLN	Aircraft Carrier	12/82	10/30/89	71,000	1,550,000,000
Peterson Builders	MCM-5	GUARDIAN	Mine Countermeasures Ship	12/83	11/17/89	1,000	37,400,000
					Total of 21 Ships	205,367	$5,035,597,915
New U.S. Coast Guard Vessels							
Robert E. Derecktor	WMEC-911	FORWARD	Medium Endurance Cutter	1/81	5/01/89	1,200	38,000,000
Robert E. Derecktor	WMEC-912	LEGARE	Medium Endurance Cutter	1/81	12/01/89	1,200	38,000,000
					Total of 2 Ships	2,400	$76,000,000
Military Sealift Command Vessel Conversions							
Tampa Shipyards, Inc.	T-ACS-7	DIAMOND STATE	Crane Ship	9/87	2/22/89	16,600	21,579,166
Tampa Shipyards, Inc.	T-ACS-8	EQUALITY STATE	Crane Ship	9/87	5/24/89	16,600	21,579,166
					Total of 2 Ships	33,200	$43,158,332

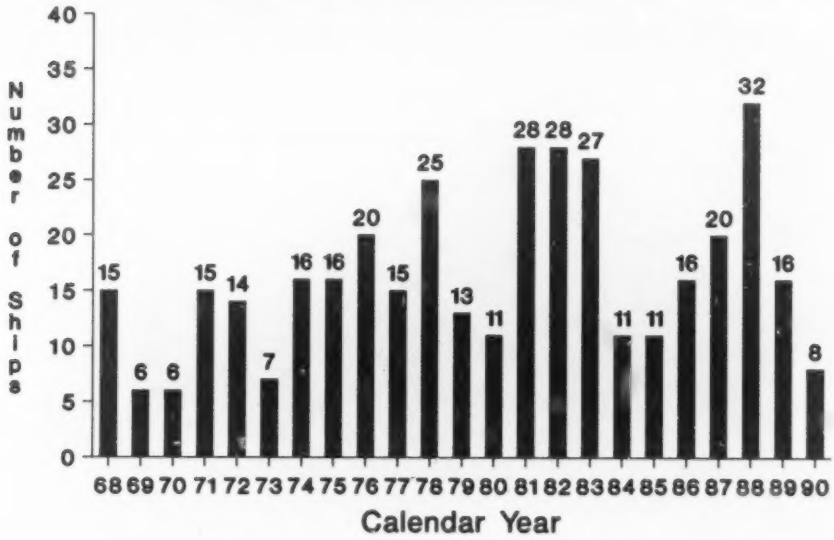
DELIVERIES BY U.S. PRIVATE SHIPYARDS DURING 1990
1,000 LIGHT DISPLACEMENT TONS AND OVER
($ in Millions)

Shipyard	Navy No.	Name	Vessel Type	Contract Date	Delivery Date	Light Disp. Tons	Approx. Contract Price
Avondale Industries	LSD-45	COMSTOCK	Dock Landing Ship	11/84	1/12/90	11,100	$ 152.4
Trinity Industries	T-AGOS 18	RELENTLESS	Ocean Surveillance Ship	2/87	1/12/90	1,600	14.0
Newport News	SSN-753	ALBANY	Attack Submarine	11/84	3/23/90	6,000	278.0
Bath Iron Works	CG-61	MONTEREY	Guided Missile Cruiser	11/84	3/25/90	8,910	191.8
General Dynamics-EB	SSN-755	MIAMI	Attack Submarine	11/83	5/30/90	6,000	260.0
Avondale Industries	T-AO-197	PECOS	Fleet Oiler	2/87	7/06/90	15,000	100.6
Robert E. Derecktor	WMEC-913	MOHAWK	Medium Endurance Cutter	1/81	7/15/90	1,200	38.0
Bethlehem Steel-SP	T-AGS-40	TANNER	Deep Ocean Survey Ship	6/85	8/31/90	8,810	66.4
Peterson Builders	MCM-6	DEVASTATOR	Mine Countermeasure Ship	8/86	8/31/90	1,000	48.2
Avondale Industries	LSD-46	TORTUGA	Dock Landing Ship	11/84	9/07/90	11,100	152.4
General Dynamics-EB	SSBN-736	WEST VIRGINIA	Ballistic Missile Submarine	11/83	9/22/90	12,500	535.4
Ingalls Shipbuilding	CG-65	CHOSIN	Guided Missile Cruiser	1/86	11/05/90	8,910	242.6
Bath Iron Works	CG-63	COWPENS	Guided Missile Cruiser	1/86	11/16/90	8,910	193.3
Peterson Builders	MCM-8	SCOUT	Mine Countermeasure Ship	8/86	11/27/90	1,000	48.2
Newport News	SSN-756	SCRANTON	Attack Submarine	11/84	12/21/90	6,000	265.6
					Total of 15 Ships	108,040	$2,586.9
Military Sealift Command Vessel Conversion							
Norfolk Shipbuilding	T-ACS-9	GREEN MOUNTAIN STATE	Auxiliary Crane Ship	1/89	9/24/90	16,600	$21.5

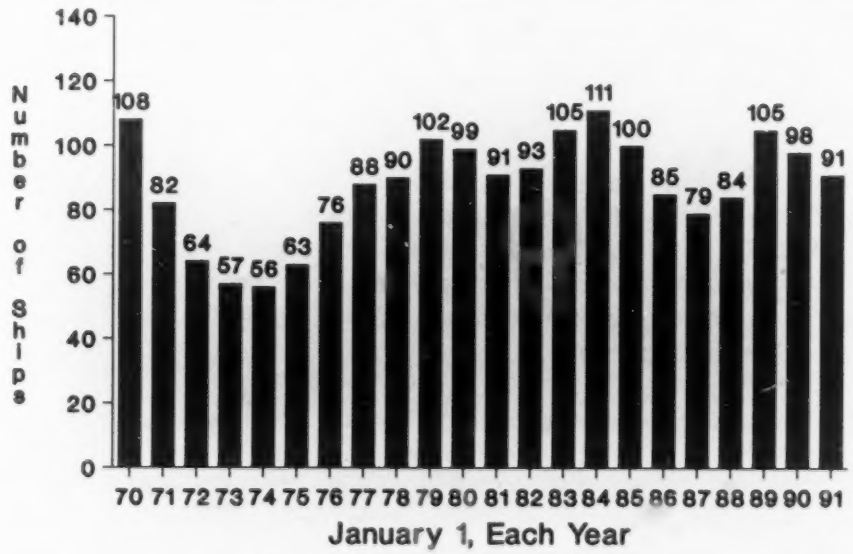
NAVAL VESSELS UNDER CONSTRUCTION/CONVERSION OR ON ORDER IN U.S. PRIVATE SHIPYARDS
(1,000 Light Displacement Tons and Over)

	January 1985		January 1986		January 1987		January 1988		January 1989		January 1990		January 1991	
	No	LDT	No	LDT	No	LDT	No	LDT	No	LDT	No	LDT	No	LDT
NEW CONSTRUCTION														
TRIDENT	6	75,000	5	62,500	5	62,500	6	75,000	7	87,500	7	87,500	7	87,500
SSN-688	18	108,000	15	90,000	17	102,000	19	114,000	22	132,000	20	120,000	17	102,000
SSN-21	-	-	-	-	-	-	-	-	-	-	1	9,150	1	9,150
CVN	3	213,000	3	213,000	2	142,000	2	142,000	4	284,000	3	213,000	3	213,000
CG	14	124,740	12	106,920	13	115,830	13	115,830	15	133,650	12	106,920	9	80,190
DDG-51	-	-	1	8,300	1	8,300	3	24,900	8	66,400	8	66,400	13	107,900
FFG	10	27,270	5	13,635	3	8,181	1	2,727	1	2,727	-	-	-	-
LHD	1	28,500	1	28,500	2	57,000	3	85,500	4	114,000	3	85,500	3	85,500
LSD	6	66,600	7	77,700	6	66,600	5	55,500	5	55,500	4	44,400	2	22,200
LSD(CV)	-	-	-	-	-	-	-	-	1	11,894	2	23,788	2	23,788
AGOR	-	-	-	-	-	-	-	-	1	2,100	1	2,100	1	2,100
AOE	-	-	-	-	-	-	1	19,700	2	39,400	3	59,100	3	59,100
ARDM	1	5,300	1	5,300	-	-	-	-	-	-	-	-	-	-
ARS	4	10,900	2	5,450	-	-	-	-	-	-	-	-	-	-
MCM	5	5,000	5	5,000	8	8,000	7	7,000	7	7,000	10	10,000	8	8,000
MHC	-	-	-	-	-	-	1	780	1	780	3	2,340	4	3,120
T-5	5	45,000	2	18,000	-	-	-	-	-	-	-	-	-	-
T-AGOS(Monohull)	9	14,400	7	11,200	4	6,400	8	12,800	6	9,600	1	1,600	-	-
T-AGOS(SWATH)	-	-	-	-	1	2,486	1	2,486	4	9,944	4	9,944	4	9,944
T-AGS-39	-	-	2	17,620	2	17,620	2	17,620	2	17,620	1	8,810	-	-
T-AGS-45	-	-	-	-	-	-	-	-	-	-	-	-	1	7,312
T-AGS-51	-	-	-	-	-	-	-	-	2	2,600	2	2,600	2	2,600
T-AKX	5	113,500	2	45,400	-	-	-	-	-	-	-	-	-	-
T-AO	4	38,000	7	66,500	8	76,000	7	66,500	10	95,000	12	180,000	11	165,000
WMEC	9	10,800	8	9,600	7	8,400	5	6,000	3	3,600	1	1,200	-	-
Totals	100	886,010	85	784,625	79	681,317	84	748,343	105	1,090,335	98	1,034,352	91	988,404
CONVERSIONS														
AO Jumbo	-	-	-	-	-	-	-	-	4	46,430	5	57,480	5	57,480
BB	-	-	-	-	1	46,000	1	46,000	-	-	-	-	-	-
T-ACS	1	15,060	1	15,060	3	45,180	4	63,320	2	33,200	2	33,200	-	-
T-AG	-	-	-	-	-	-	1	4,037	1	4,037	1	4,037	-	-
T-AH	2	140,000	2	140,000	2	140,000	1	70,000	-	-	-	-	-	-
T-AKR	4	223,200	1	55,800	-	-	-	-	-	-	-	-	-	-
T-AKX	4	110,591	-	-	-	-	-	-	-	-	-	-	-	-
T-AVB	1	14,000	2	28,000	1	14,000	-	-	-	-	-	-	-	-
Totals	12	502,851	6	238,860	7	245,180	7	183,357	7	83,667	8	94,717	5	57,480

NEW NAVAL VESSEL ORDERS PLACED WITH U.S. PRIVATE SHIPYARDS EACH YEAR



NEW NAVAL VESSELS UNDER CONSTRUCTION OR ON ORDER AT U.S. PRIVATE SHIPYARDS



A LOOK AHEAD

Navy Six-Year Plan Proposes 9.6 Ships Per Year 1992-1997

The six-year Navy shipbuilding plan submitted to the Congress in early 1991 as a part of the President's budget for fiscal year 1992 offers little consolation to a shipbuilding industry already beset by intense competition and a lack of commercial orders.

For the six-year period FYs 1992-1997, the President has proposed building an average of 9.6 ships a year at an average annual budget of $8.45 billion. The money is allocated as follows among the various types of ships:

Program	Number of Ships FYs 92-97	Percent of Ships	Funding FYs 92-97 ($Billion)	Percent of Funding
CVN	1	1.7%	$4.2	8.3%
SSN-21	7	12.2%	$15.9	31.3%
DDG-51	22	37.9%	$20.1	39.5%
LSD-41	2	3.4%	$.5	1.0%
LX	2	3.4%	$1.0	2.0%
MHC/MHC(V)	8	13.8%	$1.0	2.0%
AOE	1	1.7%	$.5	1.0%
AR	1	1.7%	$.5	1.0%
ARS	3	5.2%	$.6	1.2%
TAGOS-23	4	6.8%	$.6	1.2%
TAGS	7	12.2%	$.6	1.2%
Sealift	-	-	$1.2	2.4%
LCAC	(12)	-	$.3	.6%
Other Costs	-	-	$3.7	7.3%
Totals	58	100.0%	$50.7	100.0%

The 58 ships requested for the six-year period represent the lowest sustained annual procurements in over 30 years. Even with an average service life of 35 years per ship, an annual procurement of 9.6 ships will eventually lead to a Navy of about 335-340 ships.

Of note is the fact that only 30 combatant ships (one carrier, seven attack submarines, and 22 guided missile destroyers) are included in the mix. The vast majority of the total funding (79.1%) is allocated to those 30 ships while the remaining 28 ships in the plan require only 10.6% of the total funding of $50.7 billion proposed over the six-year period. Please note that no sealift ships are included in the 58 requested although some $1.2 billion is included as a planning wedge for this requirement.

On the opposite page, we present a chart which shows funds authorized and appropriated for fiscal years 1990 and 1991 and the President's request for fiscal years 1992-1997. Please note that for FYs 1994-1997 the funding line is a Shipbuilders Council estimate since the request included only ship numbers and not the dollar requirements. On page 13 is a chart which shows the impact of this six-year plan on shipbuilders backlog.

NAVY SHIPBUILDING FOR FISCAL YEARS 1990-1997

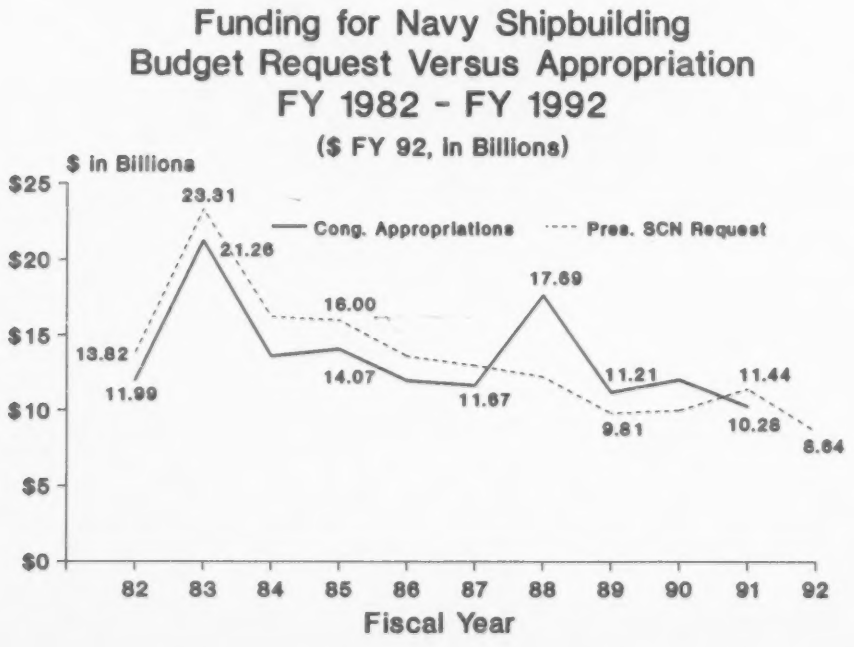
Program	Authorized & Appropriated FY 90	FY 91	FY 92	FY 93	FY 94*	FY 95*	FY 96*	FY 97*
SSBN	1/1,138.1	1/1,298.0	-	-	-	-	-	-
CVN	-	-	-	852.0	-	1/3,400.0	-	-
SSN-688	1/ 801.9	-	-	-	-	-	-	-
SSN-21	586.3	1/1,781.7	1/1,903.2	1/2,161.1	1/2,300.0	1/2,460.0	2/4,500.0	1/2,600.0
DDG-51	5/3,517.8	4/3,145.1	5/4,335.3	4/3,479.5	3/2,750.0	3/2,800.0	4/3,750.0	3/3,000.0
LHD-1	34.6	1/ 958.1	-	-	-	-	-	-
LSD-41	1/ 226.4	1/ 240.0	1/ 245.1	1/ 250.8	-	-	-	-
LX	-	-	-	-	-	1/ 550.0	-	1/ 450.0
MCM	3/ 349.4	-	-	-	-	-	-	-
MHC	2/ 249.8	2/ 203.8	2/ 231.1	2/ 222.2	1/ 130.0	-	-	-
MHC (V) or MCM	-	-	-	-	-	1/ 200.0	-	2/ 300.0
TAGOS-23	1/ 182.6	-	-	1/ 149.9	1/ 160.0	2/ 310.0	-	-
AOE-6	1/ 388.2	1/ 398.2+	1/ 540.1	-	-	-	-	-
ARS	-	-	-	-	1/ 160.0	-	2/ 250.0	-
AR (X)	-	-	-	-	-	-	1/ 450.0	-
TAGS (MIZAR)	1/ 189.0	-	-	-	-	-	-	-
TAGS (OCEAN)	2/ 121.6	1/ 43.1+	2/ 129.8	2/ 213.9	2/ 135.0	1/ 75.0	-	-
LCAC	(12) 269.8	(12) 267.5	(12) 265.9	-	-	-	-	-
Escalation	-	-	524.9	-	-	-	-	-
Sealift	375.1	900.0	-	201.4	300.0	200.0	300.0	200.0
Conversions								
CV SLEP	1/ 643.2	405.0	-	-	-	-	-	-
AO JUMBO	1/ 39.7	-	-	-	-	-	-	-
MTS	1/ 226.2	-	-	-	-	-	-	-
CVN Refueling	1/1,403.9	-	-	-	-	-	-	-
Other	769.8	414.8	471.8	767.0	500.0	500.0	500.0	500.0
Total (Ships/$)	18/11,513.3	12/10,055.3	12/8,647.2	11/8,297.8	9/6,435.0	10/10,495.0	9/9,750.0	7/7,050.0

*Dollars for FYs 1994-1997 programs are Shipbuilders Council estimates.
+FY 1991 AOE and TAGS (OCEAN) were authorized and appropriated by Congress. For the FY 1992 budget, they were deleted by DoD and funding used for transfer to other prior-year programs.

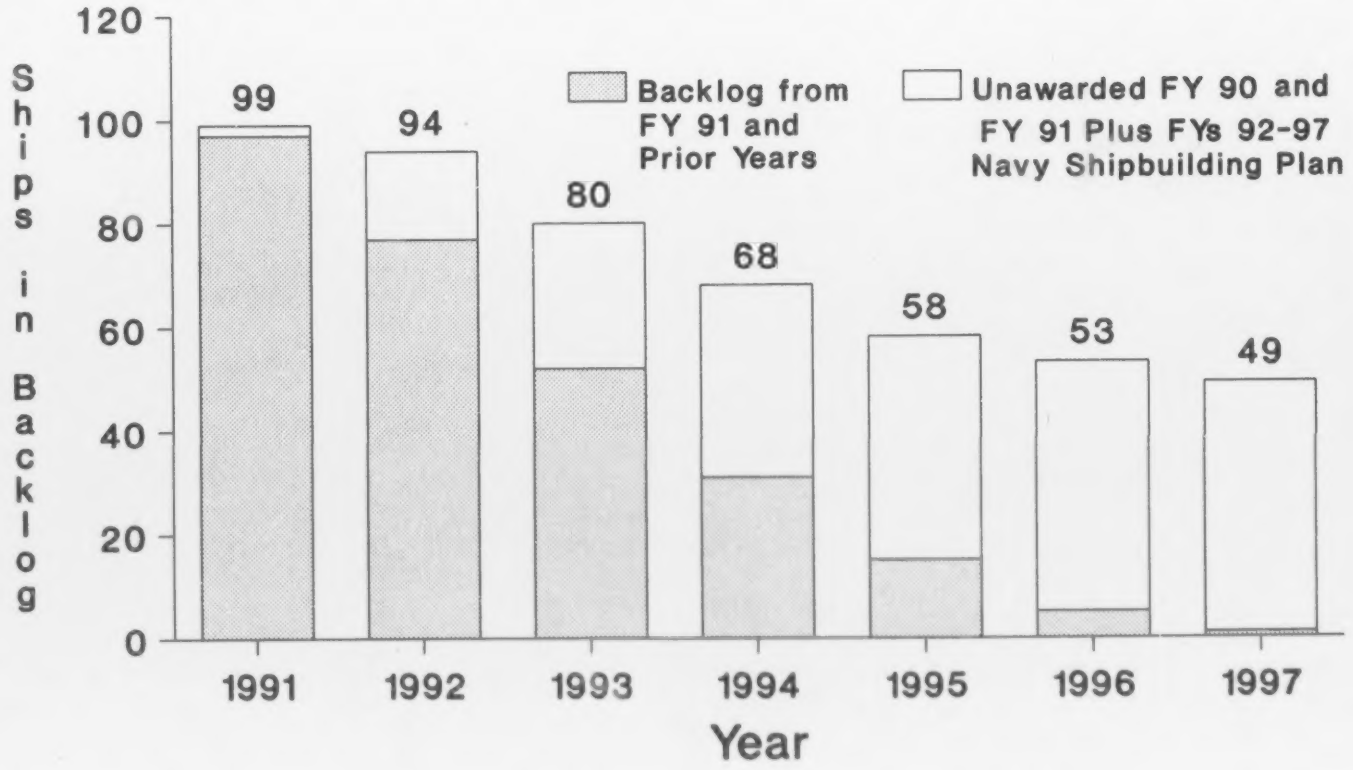
LONG-TERM, DOWNWARD TREND CONTINUES FOR SHIPBUILDING FUNDING

In the chart shown below, the President's annual funding request for the Navy Shipbuilding and Conversion Appropriation (SCN) is plotted against the final Congressional appropriation for each fiscal year from 1982 through 1991. The request for FY 1992 is also shown. For each year, both the request and the appropriation have been converted to the value in fiscal year 1992 dollars. This conversion clearly demonstrates that in real buying power, Navy SCN funding has trended downward since FY 1983. The only exception to this trend was in FY 1988 when two nuclear powered aircraft carriers (CVN) were fully funded by the Congress. It is interesting to note that the FY 1992 request of $8.64 billion is, in FY 1992 dollars, $1.64 billion less than the FY 1991 appropriation and $2.8 billion less than the FY 1991 President's request. This reflects a 24.4 percent reduction in requested funding in one year.

In fiscal years 1988, 1989 and 1990, the Congress added additional funds for shipbuilding over and above the President's request. The Budget Summit agreement leading to the FY 1991 budget hampered the ability of the Congress to add funds; also, budget authority was more strictly controlled than in prior years when outlays were the critical issue. As a result, the Council does not anticipate future Congressional windfalls to the shipbuilding account without equivalent cuts in other defense programs. As the budget tightens, this will become more difficult.



PROJECTED BACKLOG OF NAVY SHIPBUILDING
(As of July 31, 1991)



NAVAL CONTRACT AWARDS OF 1,000 LIGHT DISPLACEMENT TONS AND OVER PLACED WITH U.S. PRIVATE SHIPYARDS DURING 1989 ($ in Millions)

Shipyard	Navy No.	Name	Vessel Type	Contract Date	Est. Delivery Date	Light Disp. Tons	Approx. Contract Price
General Dynamics-EB	SSN-21	SEAWOLF	Attack Submarine	1/09/89	5/26/95	9,150	$ 726.0
Peterson Builders	MCM-9	PIONEER	Mine Countermeasures Ship	2/14/89	8/14/92	1,000	61.7
Peterson Builders	MCM-10	WARRIOR	Mine Countermeasures Ship	2/14/89	10/30/92	1,000	61.7
Peterson Builders	MCM-11	GLADIATOR	Mine Countermeasures Ship	2/14/89	5/21/93	1,000	61.7
Intermarine USA	MHC-52	HERON	Coastal Minehunter Ship	2/17/89	1/11/93	780	41.3
Avondale Industries	TAO-199	TIPPECANOE	Fleet Oiler	3/24/89	11/24/92	15,000	106.3
Avondale Industries	TAO-201	PATUXENT	Fleet Oiler	3/24/89	6/11/93	15,000	106.3
Avondale Industries	TAO-203	LARAMIE	Fleet Oiler	3/24/89	3/25/94	15,000	106.3
Avondale Industries	MHC-53	PELICAN	Coastal Minehunter Ship	10/03/89	10/01/93	780	62.4
General Dynamics	SSBN-742	--------	Ballistic Missile Submarine	10/18/89	8/31/96	12,500	576.0
Newport News SB	SSN-773	CHEYENNE	Attack Submarine	11/28/89	10/31/95	6,000	416.0
National Steel & SB	AOE-8	ARCTIC	Fast Combat Support Ship	12/06/89	3/24/94	19,700	197.6
Peterson Builders	MCM-12	ARDENT	Mine Countermeasures Ship	12/12/89	8/20/93	1,000	65.9
Peterson Builders	MCM-13	DEXTEROUS	Mine Countermeasures Ship	12/12/89	11/05/93	1,000	65.9
Peterson Builders	MCM-14	CHIEF	Mine Countermeasures Ship	12/12/89	7/08/94	1,000	65.9
Avondale Industries	LSD-50(CV)	CARTER HALL	Dock Landing Ship	12/22/89	4/30/94	11,894	127.8
				Total of 16 Ships		111,804	$2,848.8

NAVAL CONTRACT AWARDS OF 1,000 LIGHT DISPLACEMENT TONS AND OVER PLACED WITH U.S. PRIVATE SHIPYARDS DURING 1990 ($ in Millions)

Shipyard	Navy No.	Name	Vessel Type	Contract Date	Est. Delivery Date	Light Disp. Tons	Approx. Contract Price
Ingalls Shipbuilding	DDG-59	RUSSELL	Guided Missile Destroyer	2/22/90	9/26/94	8,300	$ 204.7
Bath Iron Works	DDG-60	PAUL HAMILTON	Guided Missile Destroyer	2/22/90	11/17/94	8,300	256.0
Ingalls Shipbuilding	DDG-61	RAMAGE	Guided Missile Destroyer	2/22/90	1/30/95	8,300	204.7
Bath Iron Works	DDG-62	FITZGERALD	Guided Missile Destroyer	2/22/90	3/16/95	8,300	256.0
Ingalls Shipbuilding	DDG-63	STETHEM	Guided Missile Destroyer	2/22/90	5/29/95	8,300	204.7
Avondale Industries	T-AGS-45	WATERS	Oceanographic Survey Ship	4/04/90	3/19/93	7,312	104.4
Avondale Industries	MHC-54	ROBIN	Coastal Minehunter Ship	08/02/90	2/02/94	780	$63.6
General Dynamics-EB	SSBN-743	--------	Ballistic Missile Submarine	12/19/90	8/31/97	12,500	765.0
				Total of 8 Ships		62,092	$2,059.1

COMMERCIAL SHIPBUILDING

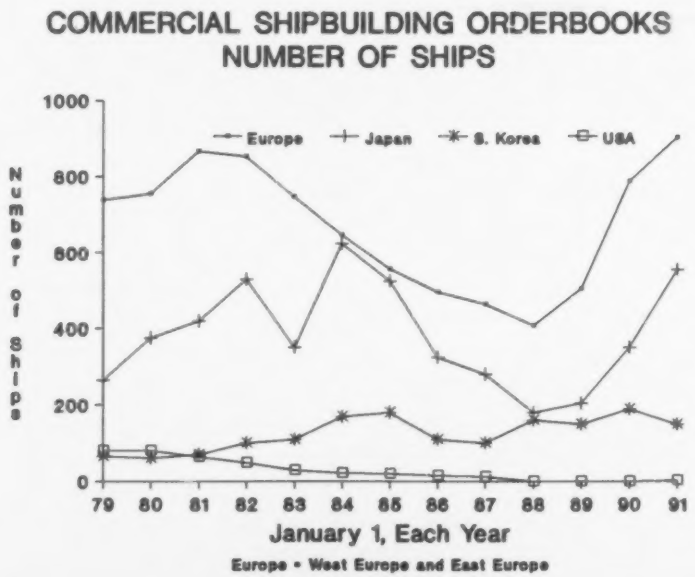
The Worldwide Merchant Ship Orderbook in 1989 and 1990

The signs that a decade of worldwide market depression for commercial shipping was coming to an end began to appear in 1988, as the world economic picture brightened, stimulating growth in world trade. Between mid-1988 and mid-1989, the world's commercial fleet enjoyed the first period of expansion in seven years. Significant reductions in laid-up tonnage, together with the high ship scrapping rates throughout the 1980s, contributed to modest increases in freight rates.

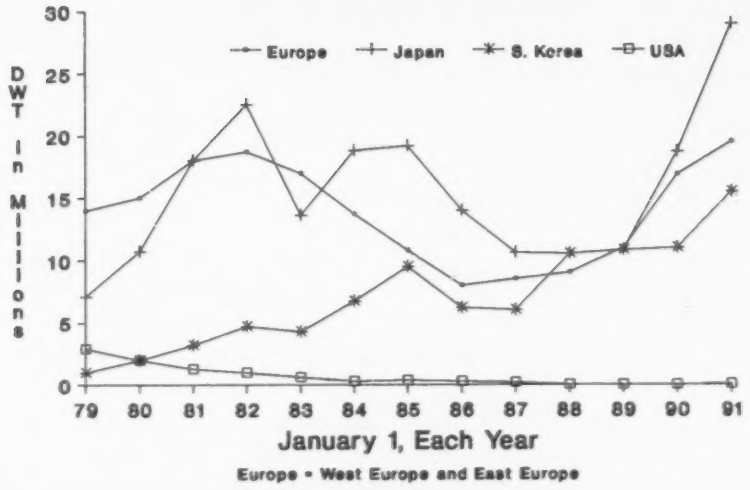
Because the fate of commercial shipbuilding is tied to the fortunes of the merchant fleet, the improvements in the international shipping market between mid-1988 to mid-1990 led to a sharp rise in new ship orders. The number of commercial ships on order in the world's shipyards at the end of 1987 was 817--the historical low point. By the end of 1990, the increase in the number of ships on order was 133 percent over the 1987 figure. The table below shows the number of merchant ships on order worldwide at the industry's highpoint (Dec. 31, 1974) and lowpoint (Dec. 31, 1987), as compared with Dec. 31 of last three years (1988, 1989, and 1990). The table is followed by two figures that compare the shipbuilding orderbooks of four regions in terms of number of ships and deadweight tons (dwt).

WORLD SHIPS ON ORDER FOR SELECTED YEARS

Highpoint: Dec. 31, 1974	*Lowpoint:* Dec. 31, 1987	*Upturn:* Dec. 31, 1988	*Upturn Cont:* Dec. 31, 1989	*Current:* Dec. 31, 1990
2,824	817	1,005	1,433	1,909



COMMERCIAL SHIPBUILDING ORDERBOOKS
DEADWEIGHT TONS



As you can see from the next table, there were 200 more new ship orders in 1989 than 1988 and 312 more new ship orders in 1990 than in 1989.

QUARTERLY COMPARISONS OF COMMERCIAL SHIP ORDERS

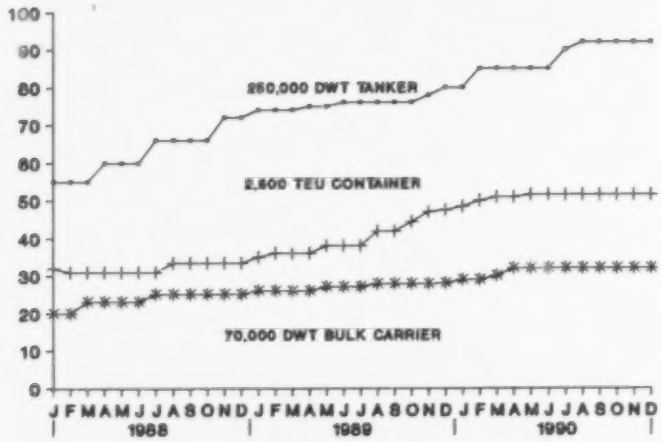
	1990		1989		1988	
Qtr.	New	Total	New	Total	New	Total
Jan/Mar	346	1,655	68	1,074	135	830
Apr/Jun	331	1,846	212	1,124	127	895
Jul/Sep	241	1,928	215	1,257	168	971
Oct/Dec	168	1,907	279	1,433	144	1,016
TOTALS:	1,086		774		574	

Excludes passenger vessels, government ships, and offshore and miscellaneous vessels.

As the preceding table of quarterly comparisons shows, the ordering pattern in the second half of 1990 was dramatically different from the first. From January to July, new ship orders poured in. After that, however, the number of new orders placed decreased substantially. What caused the market slowdown during second half of 1990? Major factors were an economic recession in the U.S. and Europe, the Persian Gulf conflict and uncertainty over oil availability and prices, difficulties in obtaining ship finance, and the rising costs for newbuildings.

Ship prices, which had been depressed throughout most of the 1980s, began to go up in 1988 and continued to escalate in 1989 and 1990. Despite the drop off in orders during the last part of 1990, prices continued to hold. The following figure shows the pricing trend during the 1988-1991 period for three ship types.

SHIP PRICES - 1988 Through 1990



Data Source: LLOYD'S SHIPPING ECONOMIST

What kinds of oceangoing commercial ships were being ordered in 1989 and 1990? The following table shows the ship types on order worldwide at the end of each year. The data source was Fairplay Information Systems.

SHIP TYPES ON ORDER WORLDWIDE AS OF DEC. 31, EACH YEAR

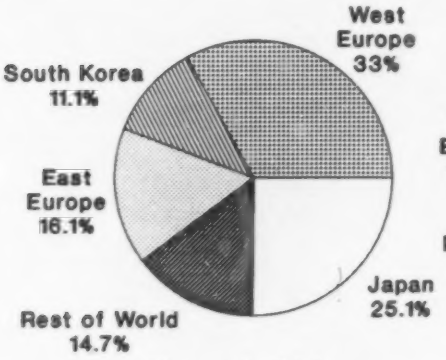
	Dry Cargo[1] No. DWT	Container[2] No. DWT	Tanker No. DWT	Bulker No. DWT	Ro-Ro No. DWT	Totals No. DWT
1989	473 2,928,856 *[20]*	168 4,380,865 *[16]*	510 30,027,716 *[5]*	248 18,849,978 *[1]*	80 715,292 *[4]*	1433 56,598,587 *[46]*
1990	697 3,942,981 *[20]*	212 5,205,008 *[20]*	687 45,174,839 *[7]*	227 16,999,033 *[5]*	94 717,069 *[9]*	1907 71,734,810 *[61]*

[Brackets indicate number of ships of unknown dwt]

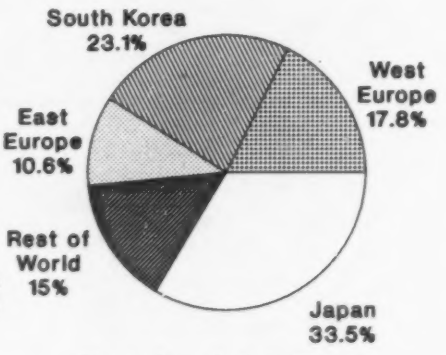
[1] **Dry cargo ships** include one U.S. refrigerated fisheries vessel in 1990. Fairplay Information Systems did not list the two sulfur carriers contracted for with a U.S. yard in 1990.
[2] **Containerships** include one U.S.-flag vessel under contract with a U.S. yard in 1990.

The next figures show the percentages of 1989 and 1990 orders (in both numbers of ships and dwt) held by the top-shipbuilding regions of the world. The figures are followed by a table with every country listed that had commercial ships on order in 1989 and 1990.

1989 REGIONAL PERCENTAGES OF MERCHANT SHIPS ON ORDER AS OF DECEMBER 31

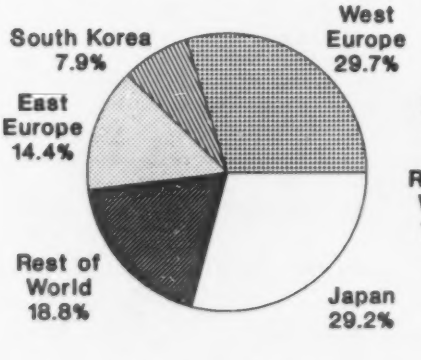


No. of Ships

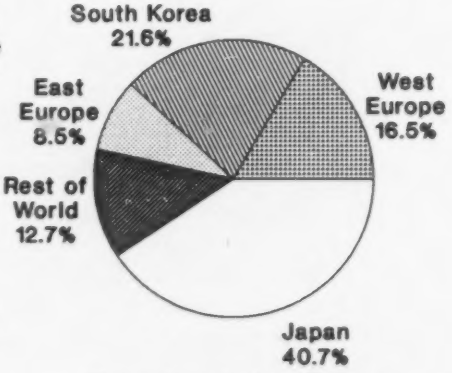


Deadweight Tons

1990 REGIONAL PERCENTAGES OF MERCHANT SHIPS ON ORDER AS OF DECEMBER 31



No. of Ships



Deadweight Tons

ORDERBOOKS FOR MERCHANT SHIPS AS OF DEC. 31, EACH YEAR

	1989				1990			
Country	**Ships**	**%**	**dwt**	**%**	**Ships**	**%**	**dwt**	**%**
JAPAN	359	*25.1*	18,983,659	*33.5*	556	*29.2*	29,228,105	*40.7*
S.KOREA	159	*11.1*	13,079,441	*23.1*	150	*07.9*	15,503,755	*21.6*
CHINA	68	*04.7*	1,439,851	*02.5*	88	*04.6*	2,218,000	*3.1*
TAIWAN	16	*01.1*	1,817,300	*03.2*	16	*00.8*	1,334,350	*1.9*
SINGAPORE	22	*01.5*	109,880	*00.2*	42	*02.2*	246,110	*0.3*
Far East Total	**624**	***43.5***	**35,320,251**	***62.4***	**852**	***44.7***	**48,530,320**	***67.7***
GERMANY*	121	*08.4*	1,969,364	*03.5*	166	*08.7*	2,068,763	*02.9*
NETHERLANDS	73	*05.1*	338,851	*00.6*	98	*05.2*	421,706	*00.6*
DENMARK	65	*04.5*	1,896,698	*03.4*	83	*04.4*	3,181,186	*04.4*
ITALY	45	*03.1*	1,761,068	*03.1*	59	*03.1*	2,435,744	*03.4*
SPAIN	57	*04.0*	2,560,298	*04.5*	37	*01.9*	1,616,290	*02.3*
U.K.	14	*01.1*	843,000	*01.5*	32	*01.7*	941,395	*01.3*
PORTUGAL	22	*01.5*	142,684	*00.3*	17	*00.9*	197,918	*00.3*
BELGIUM	9	*00.6*	1,321	*00.0*	11	*00.6*	214,200	*00.0*
FRANCE	0	*0*	0	*0*	2	*00.1*	12,600	*00.0*
GREECE	2	*00.1*	7,300	*00.0*	0	*0*	0	0
EC Total	**408**	***28.5***	**9,520,584**	***16.8***	**505**	***26.5***	**11,089,802**	***15.5***
NORWAY	45	*03.1*	500,120	*00.9*	42	*02.2*	457,020	*00.6*
AUSTRIA	12	*00.8*	6,100	*00.0*	11	*00.6*	8,100	*00.0*
FINLAND	7	*00.5*	35,800	*00.1*	8	*00.4*	220,100	*00.3*
Other W. Europe	**64**	***04.5***	**542,020**	***01.0***	**61**	***03.2***	**685,220**	***01.0***
POLAND	65	*04.5*	2,560,298	*04.5*	74	*03.9*	1,602,730	*02.2*
YUGOSLAVIA	62	*04.3*	1,492,830	*02.6*	72	*03.8*	2,321,737	*03.2*
USSR	28	*02.0*	613,684	*01.1*	64	*03.4*	967,474	*01.3*
BULGARIA	45	*03.1*	561,614	*01.0*	29	*01.5*	481,210	*00.7*
ROMANIA	30	*02.1*	752,080	*01.3*	30	*01.6*	734,675	*01.0*
CZECHOSLOVAKIA	0	*0*	0	*0*	6	*00.3*	16,500	*00.0*
E.Europe Total	**230**	***16.1***	**5,981,506**	***10.6***	**275**	***14.4***	**6,124,326**	***08.5***

* Germany includes both East and West Germany.

- Continued -

ORDERBOOKS FOR MERCHANT SHIPS AS OF DEC. 31, EACH YEAR (CONT'D.)

	1989				1990			
Country	**Ships**	**%**	**dwt**	**%**	**Ships**	**%**	**dwt**	**%**
TURKEY	46	*03.2*	434,660	*00.8*	62	*03.3*	831,410	*01.2*
EGYPT	9	*00.6*	88,200	*00.2*	8	*00.4*	107,200	*00.1*
INDIA	9	*00.6*	479,500	*00.8*	7	*00.4*	367,850	*00.5*
PAKISTAN	1	*00.1*	17,300	*00.0*	2	*00.1*	34,600	*00.0*
Middle East Total	**65**	***04.5***	**1,019,660**	***01.8***	**79**	***04.1***	**1,341,060**	***01.9***
BRAZIL	52	*03.6*	3,745,905	*06.6*	40	*02.1*	3,209,225	*04.5*
MEXICO	3	*00.2*	64.900	*00.1*	16	*00.8*	66,600	*00.1*
VENEZUELA	n/a		n/a		4	*00.2*	26,100	*00.0*
ARGENTINA	11	00.8	428,550	*00.8*	21	*01.1*	368,950	00.5
U.S.A.	0	*0*	0	*0*	3	*00.2*	42,107	*00.1*
N/C/S America Total	**66**	***04.6***	**4,239,355**	***07.5***	**84**	***04.4***	**3,712,982**	***05.2***
INDONESIA	7	*00.5*	22,000	*00.0*	34	*01.8*	117,000	*00.2*
AUSTRALIA	4	*00.3*	18,700	*00.0*	3	*00.2*	15,300	*00.0*
MALAYSIA	3	*00.2*	37,300	*00.1*	6	*00.3*	59,700	*00.1*
MALTA	7	*00.5*	53,900	*00.1*	6	*00.3*	46,200	*00.1*
S. AFRICA	n/a		n/a		3	*00.2*	27,900	*00.0*
Other, Total	**21**	***01.5***	**131,900**	***00.2***	**52**	***02.7***	**266,100**	***00.4***
GRAND TOTAL	**1,433**	***100.0***	**56,598,587**	***100.0***	**1,909**	***100.0***	**71,749,810**	***100.0***

Does not include passenger, government, offshore, or miscellaneous vessels. Percentages are rounded.

Primary data source for tables: Fairplay Information Systems

Japan strengthened its hold on the commerical shipbuilding market in the two-year period 1989 and 1990. With over a third of the total dwt on order by the end of 1989, Japan increased that lead to over 40 percent a year later. Japan also lead the world in the number of ships on order, increasing its percentage from over 25 percent in 1989 to over 29 percent in 1990. South Korea, which came in a distant second to Japan in terms of percentage of dwt on order--23.1 percent in 1989, decreasing to 21.6 percent in 1990--nevertheless was far ahead of any other single country. In terms of number of ships, however, Korea had lost its second place position to Germany by the end of 1990. (Note: For comparison purposes, the table counts East Germany and West Germany as one country for both 1989 and 1990, even though reunification did not take place until the fourth quarter of 1990.)

Commercial Shipbuilding in the United States

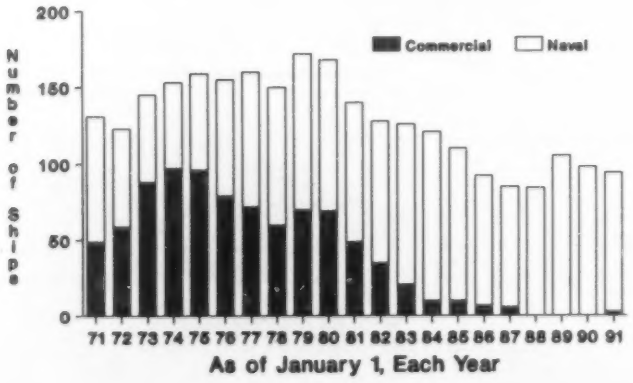
Commercial shipbuilding construction activity collapsed in the United States during the 1980s, as a result of the shipbuilding depression worldwide, the build-up of overcapacity in Japan and Europe based on speculation, artificially low ship prices overseas (particularly in South Korea, Japan, and Germany) backed by government subsidy, and naïve U.S. Government policies.

The primary customer of the U.S. commercial shipbuilding industry has been U.S.-flag operators, largely because of the linkage between domestic shipyards and the domestic fleet created by the 1936 Merchant Marine Act. One of these links was the Construction-Differential Subsidy (CDS) paid to U.S. owners for having their ships built in U.S. yards. In 1981, when foreign governments were providing direct and indirect shipbuilding subsidies ranging from 10 to over 60 percent, the U.S. Government abruptly ended the CDS program.

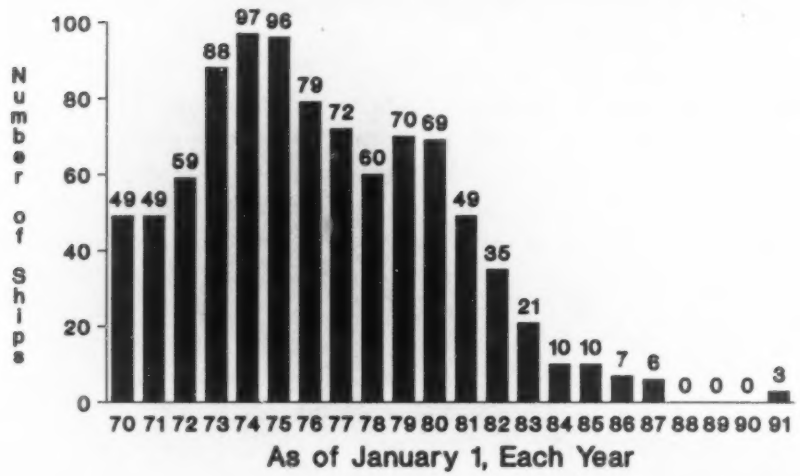
At the same time, the U.S. Government also created special legislation--the Section 615 amendment-- designed to encourage U.S. owners receiving Operating-Differential Subsidy (ODS) to take advantage of the subsidized prices in foreign yards. Of the 33 new ships built in foreign shipyards under the legislation, all but three were built in the three countries that most heavily distorted the shipbuilding marketplace during the 1980s: Japan, South Korea, and West Germany. As one example, the HDW shipyard received $165 million from the German Government to allow it to build five containerships for American President Lines.

Because they were unable to compete as an unsubsidized industry in the international marketplace distorted by foreign government subsidies, U.S. shipyards turned almost exclusively to building U.S. Navy ships. The figure below compares Navy ship orders with commercial ship orders in U.S. yards from 1971. It is followed by a figure which shows the pattern of commercial shipbuilding orders in the U.S. from 1970 through 1990.

NEW MERCHANT AND NAVAL VESSELS
UNDER CONSTRUCTION OR ON ORDER
AT U.S. PRIVATE SHIPYARDS



NEW MERCHANT VESSELS UNDER CONSTRUCTION OR ON ORDER AT U.S. PRIVATE SHIPYARDS



The last merchant ship order placed in a U.S. yard in the 1980s was in 1984; the last delivery was in November of 1987. In 1988 and 1989, there were no commercial ships on order in the U.S. The situation changed in 1990, when the following three orders were placed for vessels to be used in the domestic ("Jones Act") trades:

Date	No.	Vessel	Customer	Shipyard
Jan 1990	1	custom containership, 1,650 TFEU 27,107 dwt	Matson Navigation Co., USA	National Steel & Shipbuilding Co., San Diego, Calif.
Oct 1990	2	sulfur carriers, self-unloading, 7,500 dwt ea	Freeport-McMoran Resources, USA	Eastern Shipyards, Panama City, Fla.

Also in 1990, Avondale Industries of New Orleans, La., signed an agreement with the World City Corporation of Norway to develop the contract design and submit a bid for building the PHOENIX WORLD CITY, the largest passenger vessel in the world. And Halter Marine of Gulfport, Miss., submitted the second-lowest bid (after Mitsui of Japan) in the international competition to build one or two superferries for Canada's British Columbia Ferry Corporation. Yards submitting higher bids were Finland's Masa, Canada's Versatile, and Yugoslavia's Brodosplit, in that order. After figuring in Canadian tariffs, Halter was actually the lowest

bidder. However, in a highly-controversial decision, Versatile was declared the winner. The Canadian yard has since gone bankrupt, and the British Columbia Government has had to intervene. U.S. yards have also been developing designs and production concepts for environmentally-safe, double-hulled tankers, as a result of the Oil Pollution Act of 1990, which requires double hulls on vessels transporting oil into U.S. ports according to a phase-in schedule.

The competitiveness of U.S. yards in the commercial shipbuilding market improved dramatically in 1989 and 1990 for a number of reasons: higher ship prices brought about by an improved international market and lower shipbuilding capacity, a relatively weak dollar in the financial markets, improved productivity of U.S. yards as proven in naval shipbuilding programs, and lower shipyard worker wage rates in the U.S. as compared with Northern Europe and Japan. The following table compares the shipbuilding wage rates of ten countries.

SHIPBUILDING HOURLY COMPENSATION COSTS (INCLUDING FRINGES)

Country	1988 $/Hr.	1989 $/Hr.	1990 $/Hr.
Germany	20.89	20.16	26.50
Norway	19.88	19.63	24.36
Denmark	16.99	16.23	21.86
Netherlands	15.87	n/a	21.70+
Italy	14.62	15.10	19.22
France	14.51	14.09	18.60
Japan	14.83	14.67	15.80
USA	14.33	14.77	15.50
U.K.	9.89	10.06	12.55
S. Korea	4.40	6.35	10.00+ *

** Based on discussions with Korean shipbuilders.*

The primary reasons for remaining cost disparities between the U.S. and foreign yards are (1) foreign shipbuilding subsidies, and (2) the fact that U.S. builders quote prices for first-of-class and short-run programs rather than series builds. Since American shipbuilders have been surviving on naval work, they will have to establish new procedures for commercially-oriented, multi-ship construction programs. The current and future commercial market niches for U.S. yards are technologically sophisticated ships, including those with high outfitting, such as cruise ships, high-speed ferries, and double-hull tankers.

International Negotiations to End Shipbuilding Subsidies

Government support of shipbuilding escalated worldwide during the market depression in the 1980s, except in Sweden and Canada, where aid was sharply reduced, and in the United States, where all shipbuilding aid was cut off in 1981. Moreover, foreign shipbuilding subsidies have been continued despite the marked improvement in market conditions that began in 1988.

An international agreement to end government subsidization of commercial shipbuilding and repair has been under negotiation within the Organization for Economic Cooperation and Development's (OECD's) Working Party Six (WP-6) since the summer of 1989. The following belong to the OECD's WP-6: Belgium, Denmark, the Commission of the European Community, Finland, France, Germany, Greece, Ireland, Italy, Japan, the Netherlands, Norway, Spain, Sweden, the United Kingdom, South Korea (in 1990), and the United States (in 1989).

The draft OECD agreement consists of four parts: The Preamble and the Articles comprising the body of the text; Annex I, which describes the types of direct and indirect subsidies to be phased out; Annex II, which would list the specific subsidy programs to be phased out, as well as provide a phase-out schedule; Annex III, a ship pricing provision first introduced by the European Community; and Annex IV, the detailed procedures previously contained in Article 8 for establishing a panel to consider complaints of violations.

The following subsidies are addressed in the draft agreement: officially-supported export credits (government-aided financing for export ships); direct official operating support for shipyards, such as grants, debt forgiveness, and preferential tax treatment; and other government practices or regulations that directly or indirectly favor shipyards.

The starting point for the types of shipbuilding-related subsidies under consideration was another OECD document issued nearly eight years ago called the "Revised General Arrangement (RGA)." Under the terms of the 1983 RGA, Japan, the European Commission, and 12 European countries agreed to gradually eliminate their shipbuilding-related subsidies and not to introduce any new ones. However, they largely ignored their pledge under the agreement.

The latest OECD shipbuilding subsidy negotiations were initiated at the request of the United States, in response to a petition submitted by the Shipbuilders Council of America in June 1989 under Section 301 of the U.S. Trade Act calling for action against the shipbuilding and repair subsidies in four countries: Japan, South Korea, Germany, and Norway. The following month, the Council withdrew its petition at the request of U.S. Trade Representative Carla Hills in order to allow the U.S. Government to pursue multilateral trade talks. Ambassador Hills stated her confidence that substantial progress would be made by March 30, 1990. However, neither that deadline nor two subsequent deadlines have been met.

At this writing, the OECD negotiations are continuing. However, U.S. shipbuilders and a growing number of members of Congress have lost faith that an effective and meaningful

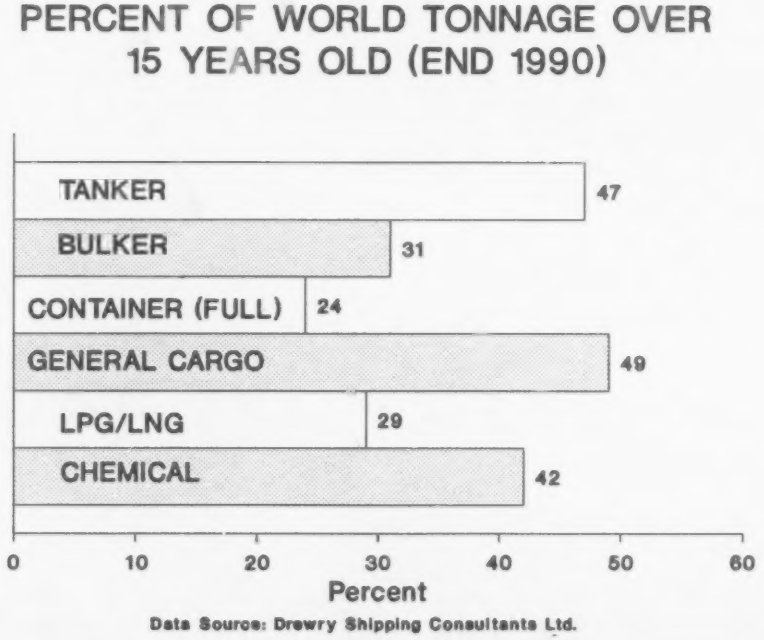
agreement will be reached in time to allow beleaguered U.S. shipyards to compete in an unsubsidized commercial market. Consequently, anti-shipbuilding/repair subsidy legislation has been introduced in both the House and the Senate.

Market Predictions for Commercial Shipbuilding in the 1990s

Most of the major shipbuilding forecasts were performed during the period 1988 through the first quarter of 1990. Although there are differences in the predicted patterns of ordering during the decade, the predicted overall demand is similar, largely because the primary determinant is replacement demand rather than expansion demand. Replacement demand is driven by the amount of new tonnage required to replace old, worn-out vessels that are retired from the fleet, whereas expansion demand is concerned with the amount of new tonnage to increase fleet size in order to respond to anticipated growth in seaborne trade.

The following factors are the major influences on newbuilding demand:

- Replacement demand, which is impacted by fleet age and condition. In terms of number of ships, about 3,500 tankers (65 percent of existing tankers) and bulk carriers (51 percent of existing bulk carriers) in the world commercial fleet will be 15 years of age or older by 1995. In terms of deadweight tons, the following figure shows the percentage of each type of ship tonnage in the merchant fleet that was over 15 years of age at the end of 1990.



- Expansion demand, which is impacted by the patterns of growth in seaborne trade and by the competitive behavior of shipowners.

- Ship scrapping rate. The rate at which owners send their old ships to the scrapyard tends to go up when the market is bad and down when the market is good. Some market observers have expressed concern that there are not enough facilities to handle the volume of scrapping required by the world's aging merchant fleet.

- Freight rates.

- Access to ship finance.

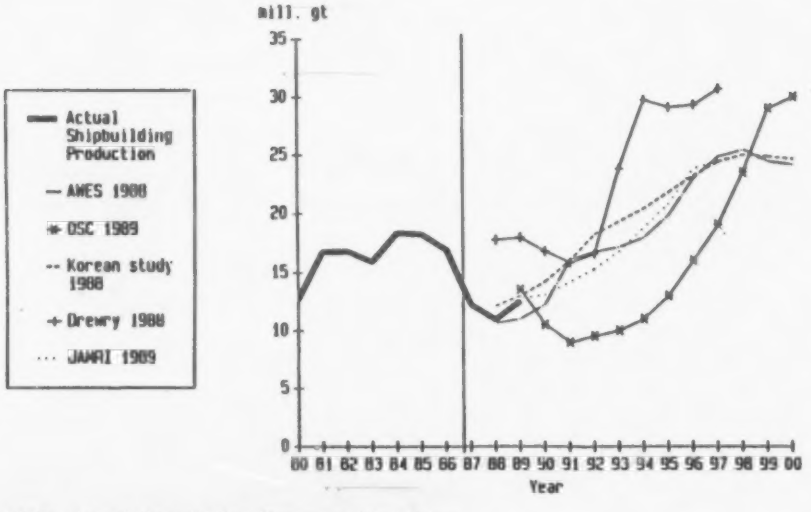
- Access to government subsidies.

- Ship prices.

- Shipbuilding capacity.

The following figure is a comparison of actual and projected shipbuilding production from 1980 to 2000 in millions of gross tons (gt) produced in 1990 by the Institute of Shipping Economics and Logistics in Bremen, Germany.

ACTUAL AND PROJECTED SHIPBUILDING PRODUCTION, 1980- 2000, IN MILLIONS OF GROSS TONS (GT)



AWES, 1988: Association of West European Shipbuilders
OSC, 1989: Ocean Shipping Consultants
Korean Study, 1988: Korean Shipbuilders Association
Drewry, 1988: Drewry Shipping Consultants
JAMRI, 1989: Japanese Maritime Research Institute

Source: ISL-Bremen, 1990

Major Shipbuilding Forecasts for the 1990s as Listed by ISL-Bremen:

AWES - Association of West European Shipbuilders, 1988: Predicted slower than actual production increases between 1988 and 1990, a sharp increase to about 15m gt between 1990 and 1991, followed by modest increases until 1994. Between 1994 and 1997, the pace picks up, then peaks at 25m gt in 1998, after which there is a drop to about 24m gt by 2000.

OSC - Ocean Shipping Consultants, 1989: Predicted a drop in production from 13m gt in 1988 to 8m gt in 1991, followed by a slow rise to around 11 in 1994, after which production takes off, reaching 29m gt by 1999 and over 30m gt by 2000.

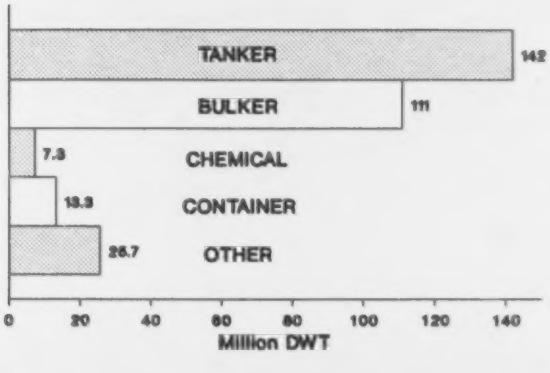
Korean Study (Korean Shipbuilders Association), 1988: Predicted continuous increases in production from 11m gt in 1988 to 18m gt by 1992, peaking at about 25m gt by 1998, then tapering off slightly.

Drewry Shipping Consultants, 1988: Predicted the 1988 production level would be at nearly 18m gt, dropping to about 15m gt by 1991, then taking off sharply in 1992 to reach over 30m dwt in two years. After 1994, production slips slightly, but rises again between 1995 and 1996 to about 32m gt.

JAMRI - Japanese Maritime Research Institute, 1989: Predicted slow increases in production from 11m gt in 1988 to about 15m gt by 1992, to a peak of 25m gt reached in 1998.

The following is ISL-Bremen's forecast by ship type:

ISL-BREMEN ESTIMATE OF
NEWBUILDING DEMAND, 1990-2000



The forecasts in the following table are in deadweight tons as opposed to gross tons. All predict a shipbuilding boom in the second half of the 1990s. As noted previously, these forecasts were done before the market slump that occurred during the last quarter of 1990.

The uncertainties associated with the market slump have caused some market observers to predict that because of increased costs of ship operation and higher prices for newbuildings, owners will opt for ship life extension programs rather then scrapping their older vessels and ordering new ones. If this is done on a large scale, the predicted newbuilding "boom" will be stretched out or pushed into the 2000s.

FORECASTS FOR THE FIRST AND SECOND HALF OF THE 1990s

Forecaster	Period	dwt (mil.) Av.Yrly	Total	Period	dwt (mil.) Av.Yrly	Total	dwt (mil.) Av.Yrly	Total
ISL - 4/90 Tankers, bulkers, containerships, and chemical and gas carriers.	1990-1995	21.3	106.3	1995-2000	33.5	167.7	27.4	274
OSC - 5/89 Tankers, bulkers, gen. cargo only.	1991-1996	10.3	51.5	1996-2001	46.9	234.6	28.6	286.1
AWES - 10/88 Tankers, bulkers, gen. cargo, containerships, and gas and chemical carriers.	1990-1995	35.1	175.7	1995-2000	38.4	192.1	36.8	367.8
MOT - 8/88 Tankers, bulkers, gen. cargo, containerships, and gas and chemical carriers.	1990-1995	32.7	163.6	1995-2000	37.1	185.6	34.9	349.2

* *Deadweight ton (DWT) estimates for OSC forecast calculated from gross ton (GT) figures.*

ISL-Bremen: Institute of Shipping Economics and Logistics (Bremen, Germany) study, "World Shipbuilding Outlook 2000," April 1990.

OSC: Ocean Shipping Consultants (Surrey, England) study, World Shipbuilding and Newbuilding Prices to 2000," May 1989.

AWES: Assoc. of West European Shipbuilders study, "1988 Review of Global Shipbuilding Requirements to 2000," October 1988.

MOT: Japanese Ministry of Transport study, "Outline of a Survey to Forecast Shipbuilding Demand," August 1988.

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